CERM-P   28 March 1999

MEMORANDUM FOR COMMANDERS/DIRECTORS, ALL MAJOR
                                    SUBORDINATE COMMANDS, FIELD OPERATING
                                    ACTIVITIES AND LABORATORIES

SUBJECT: Controls on Locally Developed SQL (Standard Query Language) Scripts

1. Reference: CERM-A Memorandum dated 12 April 1996, subject: CEFMS Data Base
Update Policy, and CEFC-ZA Memorandum dated 7 January 1997, same subject, copies of
which are at enclosure 1.

2. Referenced memoranda identified weaknesses in control of SQL scripts used to change data
in CEFMS tables and provided policy and guidance to correct the problems. Audits conducted
by the US Army Audit Agency (AAA) during FY 1998 revealed that field offices were not
complying with the guidance in a consistent manner. AAA maintains that current practices
could lead to corruption of data and do not provide an audit trail. Specific practices which were
identified by AAA as deficient are as follows:

   a. Too many employees have permission to develop, test, or execute scripts.

   b. A single individual may develop, test, approve and execute the same script (inadequate
separation of power).

   c. Documentation is inadequate.

   d. Scripts, output files and documentation are not retained, or are not stored in a single
location.

   e. There is no method of distinguishing Finance Center scripts from locally developed scripts.

3. System update, for purposes of this memorandum, is defined as a change to data stored in
CEFMS. A script is defined as a written collection of SQL statements which modifies CEFMS
data other than by use of CEFMS screens. The referenced policy remains in effect and the
following policy statement reiterates and enhances the guidance provided in referenced
memoranda. Commanders will immediately take steps to insure that:

   a. CEFMS production data bases WILL NOT be updated via SQL without a tested script.

   b. A limited number of qualified users are allowed to develop, test and execute scripts. Each
CEFMS production site should designate a minimum of two individuals who are authorized to

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execute scripts that change/modify the data base.   These responsibilities should be separated to the degree that is practical. In no case should the same employee develop and approve a script. The individuals who develop, test, execute and approve scripts should be designated in writing by a level of management equal to the location's Finance and Accounting Officer (sample letters of designation are at enclosure 2).

   c. Scripts which update CEFMS data bases will be documented to include the reason the script is required, tables being updated, CEFMS responsible employee (who reviewed the script and its output) as well as the date the script was run and the POC at the production site. A log file is to be maintained for all scripts executed (run) at production sites. The required documentation, script and output files should be saved and stored in a specific directory or control log and retained as an audit trail. When practical there should be a "spool" command in the script to provide a record of output data.

   d. The local activity will devise and use a documented method of distinguishing Finance Center scripts from locally developed scripts (e.g., using a specific identifier as part of the filename).

   e. All scripts will be executed (tested) at the production data base and rolled back. Output will be reviewed and evaluated to ensure the scripts will produce the desired result.

   f. Each production site should issue written guidance on documentation, testing, roll backs, etc. to ensure data base integrity and reduce data base problems/imbalances caused by SQL updates and scripts originating at the production sites.

   g. Each site should perform periodic reviews and trend analysis on scripts to determine whether there are systemic problems which should be referred to the Finance Center.

4. The Director, USACE Finance Center will take steps to insure that scripts developed for field execution are reviewed annually and analyzed to identify trends and systemic problems which should be addressed at the corporate level.

FOR THE COMMANDER:

                                             /s/
Encl   STEPHEN COAKLEY
as   Deputy Chief of Staff,
                                         Resource Management

CF:
District Commanders
CEIG

MEMORANDUM FOR All CEFMS Production Sites And All Sites to be Deployed in FY 96

SUBJECT: CEFMS Data Base Update Policy

1. In late 1994, early 1995 we were made aware that changes were being made to the CEFMS Beta Test Site's data bases using SQLPLUS, which is a very powerful tool. We also found that "scripts" used to make corrections to the CEFMS data bases were not adequately controlled. These tools are similar to the data base "build" capability in COEMIS, but much more critical in one aspect, since these tools do not require a paper audit trail. We must be very deliberate in the establishment of controls since you can restate "history" using these tools.

2. We implemented a CEFMS development policy, for both contractors and government employees, on 28 February 1995 for CEFMS data base corrections. We eliminated the use of SQLPLUS and placed a stringent control on the use of "scripts"   Our policy is:

   a. Production data bases WILL NOT be updated by CEFMS development personnel.

   b. Scripts written/developed by CEFMS development personnel which update CEFMS data bases will be documented to include the reason the script is required, tables being updated, CEFMS responsible employee (who reviewed the script and it's output) as well as the date the script was run and the POC at the production site

   c. All scripts will be executed (tested) at the production data base and rolled back. Output will be reviewed, evaluated to ensure the script will produce the desired result. Only a limited number of personnel will have access/authority to execute (test) and roll back the test scripts. (Currently those personnel are Sandy Eckley, Carol Wright, Grady Gaston, and Mary Ann Ansel.)

   d. Only certain personnel will have the authority to call the production sites to request that a completed, tested script be executed by that site to change/modify the data base. (Currently those personnel are Sandy Eckley, Judy Riffel, Carol Wright, and Mary Ann Ansel.)

   e. A log file is maintained for all scripts executed (run) at production sites.

3.   This policy with implementing procedures was put into place to ensure that an audit trail is maintained for all changes made to the production data bases and that the audit trail is accessible to users needing this information. In order for this process to work, we need assistance from the production sites and the sites that are to become production sites in the future. Request that each site implement policy and procedures similar to those described

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CEFC-ZA   7 January 1997

MEMORANDUM FOR COMMANDERS/DIRECTORS, ALL USACE COMMANDS

SUBJECT: CEFMS Data Base Update Policy

1. It has come to my attention that some of the sites deployed on CEFMS have been making changes to their CEFMS data base by writing SQLPLUS (Standard Query Language) queries and scripts. These data base changing scripts have resulted in a lack of internal controls by not providing an audit trail of the transactions changed and has often required the CEFMS Development Team to divert time from conversion to CEFMS to fixing these ill advised scripts of your CEFMS data base.

2. This is a very serious problem and this practice must stop! The following procedures are mandated for all CEFMS sites:

   - Stringent control on the use of scripts must be enforced.
   - Only CEFMS development team personnel and a very few highly knowledgeable individuals at each site should be granted script writing privileges.
   - A log is to be maintained recording all scripts executed (run) at a production site and the run date. Scripts written/developed that updates a CEFMS data base will be documented to include the reason for writing the script, the tables being updated, the site personnel responsible for the script and the CEFMS development team point of contact.

3. Any individual abusing these procedures will be held accountable. By adhering to these controls, we can ensure the integrity of our CEFMS data bases and maintain proper internal control at each site.

4. My POC for this action is Mr. Stan Wrenn, CEFC-ZA, 901-874-7802.

ALBERT J. GENETTI, JR.
Major General, USA
Deputy Commander

NCL 1

CEXX-RM-F   date

      MEMORANDUM FOR CEXX-RM-X

      SUBJECT: Duty Appointment (Finance and Accounting – Data Manager)

      AUTHORITY: Memorandum, CERM-ZA, XX Mar 99, CEFMS Data Base Update
Policy

1. Effective immediately you are authorized to perform and responsible for performing the
following:

      a. Execute (process) scripts for XX CEFMS production data base.

      b. Develop local scripts and ensure scripts are documented with comment lines, to
include name of requester, writer, and the purpose.

      c. Ensure that the CEFMS production data base will not be updated via SQL scripts
without being tested and rolled back.

      d. Establish and maintain a control log of SQL scripts to include: originator (i.e., local or
CEMFS Development Team), reason the script is required, tables being updated, responsible
employee, CDT point of contact, and date script processed.

      e. All output will be reviewed and evaluated to ensure the test scripts will produce the
desired result.

2. For periods: Indefinite or until revoked by Finance and Accounting Officer.

                      Finance and Accounting Officer
_____

FROM:
TO: Finance and Accounting Officer

1. I hereby accept the above appointment and agree to hold myself accountable to the Finance
and Accounting Officer.

2. I fully understand the additional duties and responsibilities appointed me.

Date:_____   Signature:_____
                                Finance and Accounting Data Manager

Encl 2

CEXX-RM-F   date

MEMORANDUM FOR CEXX-IM-X

SUBJECT: Duty Appointment (Information Management – Data Base Administrator)

AUTHORITY: Memorandum, CERM-ZA, XX Mar 99, CEFMS Data Base Update
Policy

1. Effective immediately you are authorized to perform and responsible for performing the
following:

      a. Execute (process) scripts for XX CEFMS production data base.

      b. Maintain an oracle file directory containing all scripts modifying the XX CFEMS
production data base.

      c. Ensure that the CEFMS production data base will not be updated via SQL scripts
without a test script.

      d. Serve Information Management as expert point of contact for XX to execute SQL
scripts.

      2. For period: Indefinite or until revoked by Finance and Accounting Officer.

                                    Finance and Accounting Officer
_____

FROM:
TO: Finance and Accounting Officer

1. I hereby accept the above appointment and agree to hold myself accountable to the Finance
and Accounting Officer.

2. I fully understand the additional duties and responsibilities appointed me.

Date:_____   Signature:_____
                                    Information Management
                                    Data Base Administrator

Encl 2

CEXX-RM-F   date

MEMORANDUM FOR CEXX

SUBJECT: Duty Appointment

        AUTHORITY: Memorandum, CERM-ZA, XX Mar 99, CEFMS Data Base Update
Policy

1. Effective immediately you are authorized to approve and responsible for approving all SQL
scripts developed to change CEFMS data.

                                        Finance and Accounting Officer
_____

FROM:
TO: Finance and Accounting Officer

1. I hereby accept the above appointment and agree to hold myself accountable to the Finance
and Accounting Officer.

2. I fully understand the additional duties and responsibilities appointed me.

Date:_____   Signature:_____
                                        Information Management
                                        Data Base Administrator

Encl 2